Civic Measurement Models: Tapping Adolescents' Civic Engagement

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BACKGROUND

The goal of this project was to produce a set of civic measures with good psychometric properties that are appropriate for use with young people ages 12-18. These measures tap aspects of adolescents civic behaviors, opinions, knowledge, and dispositions. These measures are easy to administer and can be used by educators, staff of community-based organizations, program evaluators, and scholars.

The data used to derive the civic measures were gathered from two waves of surveys with 1,924 students ages 12-18 from 88 social studies classes in the Northeastern United States. These data were collected during the 2004 election campaign with the pre-survey occurring prior to the election (mid-September to October) and the post-survey occurring after the election (late-November to mid-December). For additional information on this study and an example of many of these measures in use see Syvertsen, Flanagan, and Stout (2007).

All constructs in this report are based on students self-assessments. Further it is important to highlight the future orientation of many of the items in the constructs. For example, several of the questions ask students to estimate the likelihood that they will engage in various community and political activities after high school. Other items ask students to rate their perceived ability to respond in various ways to a hypothetical scenario (e.g., illegal drugs being sold near a school). The constructs were created by either calculating the mean score of the individual items or by summing the frequency.

In this project summary we note the psychometric properties of constructs, item stems, response formats and, where appropriate, the sources from which items in scales were derived or adapted[1]. The constructs included in this report were evaluated both for face and measurement validity. In other words, constructs were created so as to maximize the meaning of the scale and the statistical reliability.

METHODOLOGY

The data used to create the constructs reported in this paper were collected based on their theoretical relevance to the key concepts of interest. We used two approaches to determine the measurement properties of the scales: rotated principal components analysis (PCA) and structural equation modeling (SEM). The fact that concepts like political voice and trust in government are abstract and multifaceted makes the use of statistical techniques, like PCA and SEM, which bring together individual items to tap a larger meta-concept ideal.

Structural equation modeling techniques have proven to be well-suited for addressing research questions that require the measurement of such abstract psychological concepts or, in SEM jargon, latent variables or latent constructs (Bollen, 1989). As a form of confirmatory factor analysis, SEM can be used to test the fit and adequacy of a theoretically-driven measurement model, or to reproduce previous findings with a new dataset. Once a satisfactory measurement model has been confirmed, researchers can create latent (unobserved) variables from a variety of interrelated measures, or factors. Statistical software packages, such as AMOS and LISREL, estimate latent variables in a way that is suitable for dealing with error and provide robust, empirically reliable measures.

Principal components analysis (with varimax rotation) techniques were used to provide baseline information on the dimensionality of the items. Unlike factor analysis, PCA does not make allowances for measurement error or unique item variance. Thus, because measures that are derived from principal components analysis confound measurement error and unexplained item variance with "true" variance (Martin, 1987), it is advisable to use the results of the principal components analysis to inform the construction of the structural equation model but not as the end product. For this reason, we do not report the results of the principal components analyses. The SEM approach determines the best-fitting measures (taking error into account) for the latent constructs and culminates in a measurement model which provides information on how well the observed factors measure the unobserved constructs.

In addition to utilizing both the PCA and SEM approaches, we also report the Cronbach's alpha

score for each of the scales. The Cronbach's alpha measures the reliability of the scales. However it has been observed that Cronbach's alpha is biased when it comes to measuring the reliability of congeneric (related) measures (Bollen, 1989). Nonetheless, Cronbach's alpha is widely used in the literature and should be considered along with the SEM results when determining the quality of a scale. The pre- / post-design of our study allows us to report separate measurement models and alpha coefficients for each of the time points[2]. This provides further evidence about the strength and test-retest reliability of the measures, and provides some indication of whether the variables can be replicated in future studies.

INTERPRETATION OF RESULTS

The reliability of these constructs can be evaluated by examining the strength of the Cronbach's alpha and the factor loadings in the measurement model. As researchers of adolescents civic development, we have carefully constructed these scales to represent the larger underlying concepts. Nonetheless, we encourage those who use the scales in this report to evaluate the extent to which they think each of these scales taps the latent construct.

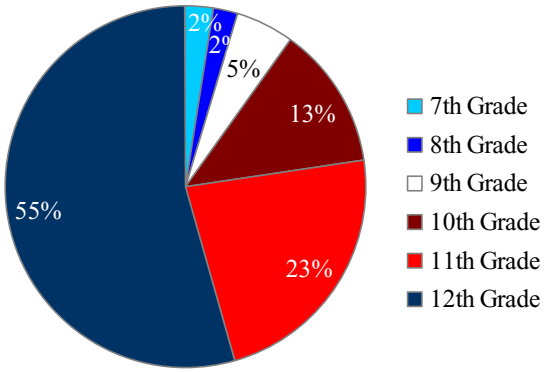
Cronbach's alpha (α) is a commonly used measure for testing the internal consistency of constructs. The alpha coefficient ranges from 0 to 1 with higher scores representing more reliable measures. As a rule of thumb, researchers usually find alpha coefficients higher than 0.7 to be acceptable (Nunnaly, 1978).

Structural equation models are assessed by evaluating the overall pattern of the fit indices, including the chi-square (χ^2), the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA). Ideally, researchers want the χ^2 for the measurement model to be non-significant however readers will quickly note that all of χ^2s reported in this paper are significant. This, in part, is the result of this statistic's sensitivity to our large sample size (N = 1924). Given χ^2 reliance on sample size, we used the CFI and RMSEA practical fit indices which have been shown to be reasonably unaffected by sample size. A CFI of .90 or greater (Bentler, 1990) and an RMSEA of .08 or less (Browne & Cudeck, 1993) indicate that the model adequately fits the data. In addition to these overall indicators, the loadings of individual items can be evaluated with SEM. Like in factor analysis, the standardized regression coefficients (or, factor loadings) range from 0 to 1 with higher scores indicating a better fit with the latent construct. Scales with three or fewer items either cannot produce, or provide a distorted CFI and RMSEA due to the limited number of degrees of freedom, thus, neither are reported for these smaller scales. In determining the quality of a construct, readers are cautioned against using either the CFI or RMSEA as the sole determinant. Instead readers are advised to consider the CFI and RMSEA in conjunction with the individual item loadings. When space is limited, researchers and practitioners should favor those items with the highest factor loadings.

SAMPLE

The young people in the sample were in grades 7 - 12, however the majority of the participants were in grades 11 and 12 (see Figure 1). The sample was evenly split between males and females (50%). The majority of adolescents self-identified as White (85%), while only 15% reported being from other races/ ethnicities: Black (5%), Native American (3%), Hispanic (3%), Asian (2%), Other (2%).

Figure 1. *Breakdown of sample by grade.*



Adolescents socioeconomic status (SES) was calculated based on their reports of mother / female guardian's highest education level (analyzed as an ordinal variable). Although not perfect, this has been shown to be a good proxy of SES. Our sample reported that their mother / female guardian's highest level of education was: high school or less (43%), technical or vocational training (7%), 2-year college degree (12%), 4-year college degree (24%), graduate degree (14%).

MEASURES

The following sections present the results of PCA and SEM analyses of the data. Results are organized by time point to illustrate the strength and reliability of the measures. Threats to internal validity were controlled by counterbalancing the adolescent survey instruments and allowing an adequate amount of time to lapse between the pre- and post-tests. All items were pilot tested with a comparable sample prior to data collection.

The results of our analyses have been organized into fourteen broad categories:

- civic behaviors
- elected officials and government
- conventional civic engagement
- alternative civic engagement
- political efficacy
- equality and injustice
- citizenship types
- parents civic engagement
- political conversation with others
- values
- media consumption and perceptions
- school climate
- personal beliefs, and
- civic knowledge.

Each section of the report includes an overview of the dimension being examined, an explanation of the items in the construct, Time 1 (T1) and Time 2 (T2) alpha coefficients, and a summary of the individual factor loadings; where appropriate, additional analysis information has been provided.

CIVIC BEHAVIORS

To explore young people's civic behaviors, we asked them to self-report on their ability to engage in a range of civic-minded activities. The three measures developed in this study assess young people's perceived ability to engage in civic action (e.g., organize a meeting), express their political voice (e.g., sign a petition), and critically analyze political messages.

Competence for Civic Action.	
T1: α=0.90; T2: α=0.92	
Stem: *If you found out about a problem in your community that you wanted to do something about (for example, illegal drugs were being sold near a school, or high levels of lead were discovered in the local drinking water), how well do you think you would be able to do each of the following?*	
Factor Loading	
T1= .71 T2= .74	Create a plan to address the problem.[1]
T1= .61 T2= .69	Get other people to care about the problem.[1]
T1= .78 T2= .80	Organize and run a meeting.[1]
T1= .72 T2= .74	Express your views in front of a group of people.[1]
T1= .72 T2= .74	Identify individuals or groups who could help you with the problem.[1]
T1= .67 T2= .70	Write an opinion letter to a local newspaper.[2]
T1= .74 T2= .75	Call someone on the phone that you had never met before to get their help with the problem.[1]
T1= .74 T2= .77	Contact an elected official about the problem.[1]
T1= .74 T2= .72	Organize a petition.
T1: $\chi^2 = 412.063$, $df = 27$, $p = .000$; CFI = .951; RMSEA = .086 T2: $\chi^2 = 325.276$, $df = 27$, $p = .000$; CFI = .961; RMSEA = .075	

Note: A principal components analysis with the items in the Political Voice and Competence for Civic Action constructs revealed that two unique components exist.

[1]: Items drawn from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).
[2]: Item adapted from the Civic Engagement Questionnaire (Keeter, Zukin, Andolina, & Jenkins, 2002).

Ability Scale

1	2	3	4	5
I Definitely Can't	**I Probably Can't**	**Maybe**	**I Probably Can**	**I Definitely Can**

Political Voice.	
T1: α=0.75; T2: α=0.79	
Stem: *When you think about your life after high school, how likely is it that you would do each of the following?*	
Factor Loading	
T1= .71 T2= .76	Contact or visit someone in government who represents your community.[2]
T1= .82 T2= .85	Contact a newspaper, radio, or TV talk show to express your opinion on an issue.[2]
T1= .60 T2= .64	Sign an e-mail or written petition.[2]

Note: A principal components analysis with the items in the Political Voice and Competence for Civic Action constructs revealed that two unique components exist.

[2]: Item adapted from the Civic Engagement Questionnaire (Keeter, Zukin, Andolina, & Jenkins, 2002).

Likelihood Scale

1	**2**	**3**	**4**	**5**
Not at all Likely		**Maybe**		**Extremely Likely**

Critical Consumer of Political Information.	
T1: α=0.88; T2: α=0.82	
Stem: *How much are each of the following like you?*	
Factor Loading	
T1= .73 T2= .61	I listen to people talk about politics even when I know that I already disagree with them.
T1= .91 T2= .91	When I see or read a news story about an issue, I try to figure out if they're just telling one side of the story.[3]
T1= .88 T2= .83	When I hear news about politics, I try to figure out what is REALLY going on.[3]

[3]: Items drawn from the Kids Voting evaluation (McDevitt, 2001), although these active processing of media items were originally developed by Kosicki and McLeod (1990).

Like Me Scale

1	**2**	**3**	**4**	**5**
Not at All Like Me		**Some Like Me**		**A lot Like Me**

STUDENTS ASSESSMENTS OF ELECTED OFFICIALS AND GOVERNMENT

Young people's opinions of elected officials and government color their civic participation. The next set of constructs are intended to gauge young people's trust of elected officials, the extent to which citizens need to hold the government accountable, government concern for ordinary people, and support for government policies.

Trustworthiness of Elected Officials.	
T1: α=0.77; T2: α=0.76	
Stem: *The next set of questions asks for your opinion of elected officials (e.g., senators, members of city council, governor, president). Indicate how much you agree or disagree with each statement.*	
Factor Loading	
T1= .49 T2= .48	In general, elected officials cannot be trusted. *Reverse Coded*
T1= .59 T2= .63	Most elected officials listen to the citizens they represent.
T1= .65 T2= .65	In general, elected officials give a lot of their time to make the community a better place.
T1= .63 T2= .58	Generally, the only thing elected officials care about is money. *Reverse Coded*
T1= .82 T2= .78	In general, elected officials are concerned with serving their fellow citizens.
T1: $\chi^2 = 58.309$, $df = 5$, $p = .000$; CFI = .976; RMSEA = .074 T2: $\chi^2 = 88.847$, $df = 5$, $p = .000$; CFI = .953; RMSEA = .093	

Agreement Scale

1	2	3	4	5
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

Civic Accountability.	
T1: α=0.69; T2: α=0.73	
Stem: *The following questions ask about your opinions. Indicate how much you agree or disagree with each statement.*	
Factor Loading	
T1= .55 T2= .63	If you love America, you should notice its problems and work to correct them.[1]
T1= .58 T2= .63	I oppose some US policies because I care about my country and I want to improve it.[1]
T1= .63 T2= .62	Being actively involved in community issues is my responsibility.[1]
T1= .65 T2= .66	Being concerned about state and local issues is an important responsibility for everybody.
T1: $\chi^2 = 56.245$, $df = 2$, $p = .000$; CFI = .953; RMSEA = .118 T2: $\chi^2 = 82.952$, $df = 2$, $p = .000$; CFI = .938; RMSEA = .144	

[1]: Items drawn from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

Government Responsiveness to "the People."	
T1: α=0.74; T2: α=0.74	
The following questions ask about your opinions. Indicate how much you agree or disagree with each statement.	
Factor Loading	
T1= .88 T2= .82	The government doesn't care about us ordinary people. *Reverse Coded*
T1= .65 T2= .69	The US government is pretty much run for the rich, not the average person. *Reverse Coded*
T1= .58 T2= .58	The government really cares what people like my family and I think.[1]

Note: Political scientists have, in the past, used items similar to those in this scale to measure political efficacy (e.g., Easton & Dennis, 1967).

[1]: Item adapted from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

Unconditional Support for Government Policies.	
T1: α=0.71; T2: α=0.68	
Stem: *The following questions ask about your opinions. Indicate how much you agree or disagree with each statement.*	
Factor Loading	
T1= .66 T2= .59	Newspapers should not criticize the government.[1]
T1= .55 T2= .53	I support all US policies, no matter what.[1]
T1= .82 T2= .85	It is un-American to criticize the government.[1]

[1]**:** Items adapted from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

CIVIC ENGAGEMENT: CONVENTIONAL POLITICS

Involving young people in the political process is an overarching objective of social studies education, part of the civic mission of schools. To measure young people's interest in electoral politics we have created a construct to gauge students expectations for engagement in conventional electoral politics. We have also included two single items that tap students political interest and political aspirations. A principal components analysis with varimax rotation of the items in these scales suggested that they hold together as one component. However conceptually it makes sense to keep the measures of political interest and aspirations separate.

Expectations for Engagement in Electoral Politics.	
T1: α=0.74; T2: α=0.72	
Stem: *When you think about your life after high school, how likely is it that you would do each of the following?*	
Factor Loading	
T1= .56 T2= .55	Vote on a regular basis.[4]
T1= .80 T2= .87	Wear a campaign button to support a candidate.[2]
T1= .74 T2= .63	Volunteer for a political party.[1,2]

[1]: Items drawn from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).
[2]: Item adapted from the Civic Engagement Questionnaire (Keeter, Zukin, Andolina, & Jenkins, 2002).
[4]: Item adapted from the IEA Civic Education Study (Torney-Purta, Lehmann, Oswarld, & Schulz, 2001).

Likelihood Scale

1	2	3	4	5
Not at all Likely		**Maybe**		**Extremely Likely**

Political Interest.
Stem: *How much do you agree or disagree with the following statements?*
Single Item
I enjoy talking about politics and political issues.[5]

[5]: Item drawn from the CityWorks Evaluation (Kahne, Chi, & Middaugh, 2002).

Agreement Scale

1	2	3	4	5
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

Personal Political Aspirations.
Stem: *How much do you agree or disagree with the following statements?*
Single Item
I am interested in a career in politics and government.[5]

[5]: Item drawn from the CityWorks Evaluation (Kahne, Chi, & Middaugh, 2002).

Agreement Scale

1	2	3	4	5
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

CIVIC ENGAGEMENT: ALTERNATIVE FORMS

Given that many adolescents are ineligible to vote, it is important to broaden the definition of civic engagement to include alternative political and community activities like boycotting, expressed interest in joining special interest groups, and service-learning. These activities are venues for young people to experiment and explore their political identities. Five constructs outlined below tap ways that young people are engaging in their communities and politics.

Expectations for Unconventional Political Engagement.	
T1: α=0.69; T2: α=0.73	
Stem: *When you think about your life after high school, how likely is it that you would do each of the following?*	
Factor Loading	
T1= .84 T2= .86	Participate in a boycott against a company.[2]
T1= .47 T2= .54	Refuse to buy clothes made in sweatshops.[2]
T1= .68 T2= .69	Participate in political activities such as protests, marches, or demonstrations.[2]

[2]: Items adapted from the Civic Engagement Questionnaire (Keeter, Zukin, Andolina, & Jenkins, 2002).

Likelihood Scale

1 2 3 4 5

Not at all Likely **Maybe** **Extremely Likely**

Alternative Ways of Expressing Political Voice.	
Sum of four (dichotomous) unconventional political engagement items where 0 = No and 1 = Yes	
Stem: *After high school, would you consider doing any of the following?*	
#	**Activity**
1	Trying to talk to people and explain why they should vote for or against one of the parties or candidates during an election? [2]
2	Expressing your views about politics on a website, blog, or chatroom? [1]
3	Participating in a poetry slam, youth forum, live music performance, or other event where young people express their political views? [1]
4	Working as a canvasser (i.e., someone who goes door to door) for a political or social group, or candidate? [2]

[1]: Items drawn from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).
[2]: Items adapted from the Civic Engagement Questionnaire (Keeter, Zukin, Andolina, & Jenkins, 2002).

Endorsement of Special Interest Groups.	
This measure is created by summing the seven special interest group questions. Participants were given three response options for these items: Yes, No, and Don't Know. **The questions in this measure can be coded in two ways: (a) If you choose to code the items, 0 = No or Don't Know and 1 = Yes, the sum of the items will be the number of SIGs participants are interested in joining, or (b) If you choose to code the items, 0 = Decided (No or Yes) or 1 (Don't Know), you get a very different measure. This measure assesses respondents' level of (in)decisiveness about their interest / intentions to join these organizations.**	
Stem: *Special interest groups are organizations that people sometimes join when they care about a particular issue. When you finish high school, would you consider joining any of the following special interest groups?*	
#	**Special Interest Group**
1	Environmental Groups (e.g., Greenpeace, Sierra Club)
2	Second Amendment and Firearms Groups (e.g., National Rifle Association)
3	Animal Rights Groups (e.g., World Wildlife Foundation, PAWS, People for the Ethnical Treatment of Animals [PETA])
4	Ethnic Support Groups (e.g., NAACP, Mexican American League Defense and Education Fund)
5	Labor Union / Professional Association Groups (e.g., AFL-CIO, American Federation of Teachers)
6	Women's Issues Groups (e.g., National Organization of Women)
7	Human Rights Groups (e.g., Amnesty International, American Civic Liberties Union)

Expectations for Engagement in Community Issues.	
T1: α=0.80; T2: α=0.80	
Stem: *When you think about life after high school, how likely is it that you would do each of the following?*	
Factor Loading	
T1= .72 T2= .69	Do volunteer work to help needy people.
T1= .83 T2= .88	Get involved in issues like health or safety that affect your community.
T1= .72 T2= .69	Work with a group to solve a problem in the community where you live.[1]

[1]: Item drawn from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).

Likelihood Scale

1	2	3	4	5
Not at all Likely		**Maybe**		**Extremely Likely**

Endorsement of Special Interest Groups.

This measure is created by summing the seven special interest group questions. Participants were given three response options for these items: Yes, No, and Don't Know.

The questions in this measure can be coded in two ways: (a) If you choose to code the items, 0 = No or Don't Know and 1 = Yes, the sum of the items will be the number of SIGs participants are interested in joining, or (b) If you choose to code the items, 0 = Decided (No or Yes) or 1 (Don't Know), you get a very different measure. This measure assesses respondents' level of (in)decisiveness about their interest / intentions to join these organizations.

Stem: *Special interest groups are organizations that people sometimes join when they care about a particular issue. When you finish high school, would you consider joining any of the following special interest groups?*

#	Special Interest Group
1	Environmental Groups (e.g., Greenpeace, Sierra Club)
2	Second Amendment and Firearms Groups (e.g., National Rifle Association)
3	Animal Rights Groups (e.g., World Wildlife Foundation, PAWS, People for the Ethnical Treatment of Animals [PETA])
4	Ethnic Support Groups (e.g., NAACP, Mexican American League Defense and Education Fund)
5	Labor Union / Professional Association Groups (e.g., AFL-CIO, American Federation of Teachers)
6	Women's Issues Groups (e.g., National Organization of Women)
7	Human Rights Groups (e.g., Amnesty International, American Civic Liberties Union)

Expectations for Engagement in Community Issues.

T1: α=0.80; T2: α=0.80

Stem: *When you think about life after high school, how likely is it that you would do each of the following?*

Factor Loading	
T1= .72 T2= .69	Do volunteer work to help needy people.
T1= .83 T2= .88	Get involved in issues like health or safety that affect your community.
T1= .72 T2= .69	Work with a group to solve a problem in the community where you live.[1]

[1]**:** Item drawn from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).

Likelihood Scale

1	2	3	4	5
Not at all Likely		**Maybe**		**Extremely Likely**

POLITICAL EFFICACY

Efficacy refers to an individual's belief that s/he is capable of executing a course of action to accomplish a task or series of tasks within a specific domain (Bandura, 1989). Feelings of self-efficacy directly influence how people feel about themselves and the types of activities they choose to engage in. Political efficacy refers to a person's belief that s/he is able to affect community/political change. Political efficacy is often the impetus for engagement.

Service-learning.

Sum of four (dichotomous) service-learning questions where 0 = No and 1 = Yes

Stem: *The questions below ask about your experiences in the last 3 years.*
Question: *As part of a class, have you worked on a service or volunteer project?*
where 0 = No and 1 = Yes

Students who responded "yes" were then asked to provide an open-ended response to the question "What did you do?" They were then asked to answer the four dichotomous (Yes/No) questions listed below.

#	In your service work, …
1	Did you have an opportunity to think and talk about your experience with other students in class?
2	Did you apply information learned in class to your service project?
3	Did you learn about possible causes of and solutions to social problems you were addressing in your service project?
4	Did you discuss what the government could do to solve the problem?

Political Efficacy.	
Stem: *The following questions ask about your opinions. Indicate how much you agree or disagree with each statement.*	
Correlation	
T1: r = .671*** T2: r = .715***	I believe I can make a difference in my community.[1]
	By working with others in the community I can help make things better.[1]

Note: *** $p \leq .001$.

[1]: Items adapted from the California Civic Index Civic and Political Efficacy measure (Kahne, Middaugh, & Schutjer-Mance, 2005).

Agreement Scale

1	2	3	4	5
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

EQUALITY AND INJUSTICE

Diffuse support for a democratic political system depends, in part, on the public's belief that the system is fair. In addition citizens may be motivated to take political action to address issues of inequality or injustice. To assess young people's beliefs about (in)justice in America we developed / adapted two measures: Trust in the American Promise and Anger about Social Injustice.

Trust in the American Promise.	
T1: α=0.84; T2: α=0.83	
Stem: *The following questions ask about your opinions. Indicate how much you agree or disagree with each statement.*	
Factor Loading	
T1= .69 T2= .70	Basically, people get fair treatment in America, no matter who they are.[6]
T1= .88 T2= .87	In America you have an equal chance no matter where you come from or what race you are.[6]
T1= .81 T2= .80	America is a fair society where everyone has an equal chance to get ahead.[6]

[6]: Items drawn from the Belief in America as a Just Society measure in Flanagan, Cumsille, Gill, & Gallay, in press.

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

Anger about Social Injustice.	
T1: α=0.87; T2: α=0.87	
Stem: *How much do you agree or disagree with each of these statements?*	
Factor Loading	
T1= .86 T2= .87	It makes me angry when I think about the conditions some people have to live in.
T1= .78 T2= .84	When I think about the hard times some people are going through, I wonder what's wrong with this country.
T1= .85 T2= .80	I get mad when I hear about people being treated unjustly.

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

TYPES OF CITIZEN

Westheimer and Kahne (2002) lay out a conceptual framework for three ways of framing the concept of a "good citizen" : personally responsible, participatory, and justice-oriented. They differentiate these aspects of citizenship using a simple food bank analogy where individuals high in personal responsibility donate items to the food bank, those high in participation organize the food drive, and those with more of a justice-bent raise questions about why people are going hungry and seek to redress the root causes of poverty. Building on their work, we have created constructs to measure these three aspects of citizenship. Many of these items have been drawn / adapted from Westheimer and Kahne, others we have added. Individuals who would like to use these measures need to pay particular attention to the fact that several of the items in the Participatory Citizen measure are cross-listed on three other measures identified in this report.

Personally Responsible Citizen.	
T1: α=0.89; T2: α=0.91	
Stem: *How much do you agree or disagree with each of these statements?*	
Factor Loading	
T1= .78 T2= .77	I think people should assist those in their lives who are in need of help.
T1= .69 T2= .74	I think it is important for people to follow rules and laws.[1a]
T1= .84 T2= .88	I try to help when I see people in need.[1a]
T1= .77 T2= .84	I am willing to help others without being paid.[1a]
T1= .78 T2= .81	I try to be kind to other people.[1a]
T1= .76 T2= .76	I think it is important to tell the truth.[1b]
T1: $\chi^2 = 255.95$, $df = 9$, $p = .000$; CFI = .941; RMSEA = .119 T2: $\chi^2 = 227.89$, $df = 9$, $p = .000$; CFI = .944; RMSEA = .112	

Note: A principal components analysis with the types of citizen items revealed that three unique components exist.

[1a]: Items drawn from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).
[1b]: Item adapted from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).

Agreement Scale

1	2	3	4	5
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

Justice Oriented Citizen.	
T1: α=0.81; T2: α=0.84	
Stem: *How much do you agree or disagree with each of these statements?*	
Factor Loading	
T1= .67 T2= .71	After high school, I will work with others to change unjust laws.[1b]
T1= .80 T2= .84	I think it is important to protest when something in society needs changing.[1b]
T1= .72 T2= .73	I think it's important to buy products from businesses who are careful not to harm the environment.
T1= .71 T2= .74	I think it is important to challenge inequalities in society.
T1: $\chi^2 = 34.942$, $df = 2$, $p = .000$; CFI = .980; RMSEA = .092 T2: $\chi^2 = 48.244$, $df = 2$, $p = .000$; CFI = .970; RMSEA = .109	

Note: A principal components analysis with the types of citizen items revealed that three unique components exist.

[1b]: Item adapted from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

In using the Participatory Citizen construct, individuals need to be cautious not to predict or correlate it with the constructs in which the items are cross-listed. Doing so will lead to incorrect results due to the inflated relationship between repeated items. If individuals want to relate the Participatory Citizen measure to the Civic Accountability, Political Efficacy, and/or Engagement in Community Issues measures, they must first remove the redundant items from one of the scales. For example, if a researcher wanted to predict participants endorsement of participatory citizenship using their political efficacy beliefs, they would need to remove the following items from the Participatory Citizen measure: "I believe I can make a differences in my community" and "by working with others in the community I can help make things better."

Participatory Citizen.	
T1: α=0.82; T2: α=0.82	
Stem: *How much do you agree or disagree with each of these statements?*	
Factor Loading	
T1= .62 T2= .62	Being actively involved in community issues is my responsibility.[1a] Cross-listed on the *Civic Accountability* construct.
T1= .55 T2= .59	Being concerned about state and local issues is an important responsibility for everybody.[1a] Cross-listed on the *Civic Accountability* construct.
T1= .78 T2= .79	I believe I can make a difference in my community. Cross-listed on the *Political Efficacy* construct.
T1= .77 T2= .77	By working with others in the community I can help make things better. Cross-listed on the *Political Efficacy* construct.
Stem: *When you think about your life after high school, how likely is it that you would do each of the following?*	
Factor Loading	
T1= .59 T2= .59	Get involved in issues like health or safety that affect your community. Cross-listed on the *Expectations for Engagement in Community Issues* construct.
T1= .64 T2= .62	Work with a group to solve a problem in the community where you live.[1b] Cross-listed on the *Expectations for Engagement in Community Issues* construct.
T1: χ^2 = 439.318, *df* = 9, *p* = .000; CFI = .882; RMSEA = .157 T2: χ^2 =571.915 , *df* = 9, *p* = .000; CFI = .837; RMSEA = .179	

Note: A principal components analysis with the types of citizen items revealed that three unique components exist.

[1a]: Item drawn from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).

[1b]: Item adapted from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).

Agreement Scale

1	2	3	4	5
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

Likelihood Scale

1	2	3	4	5
Not at all Likely		**Maybe**		**Extremely Likely**

PARENTS CIVIC ENGAGEMENT

Children are heavily influenced by the opinions and behaviors of their parents. We developed a measure to gauge participants reports of their parents level of civic engagement.

Parents' Level of Civic Engagement.	
T1: α=0.81; T2: α=0.80	
Stem: *Indicate how much you agree or disagree with each statement.*	
Factor Loading	
T1= .88 T2= .83	My parents / guardians are active in the community.[1]
T1= .69 T2= .71	My parents / guardians are active in local politics (e.g., school board, city council).
T1= .72 T2= .74	My parents / guardians do volunteer work in our community.

[1]: Item drawn from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

POLITICAL CONVERSATIONS WITH OTHERS

We developed four constructs to assess adolescents communication with parents, teachers, friends, and classmates about politics and current events. A good way to gauge an adolescent interest in politics and current events is to ask whether s/he discusses these issues with others.

Communication with Parents about Politics.	
T1: α=0.87; T2: α=0.86	
Stem: *Here are some questions about your political discussions with others. Indicate how much you agree or disagree with each statement.*	
Factor Loading	
T1= .86 T2= .86	I talk to my parents/guardians about politics.[1]
T1= .88 T2= .88	I'm interested in my parents'/guardians' opinions about politics.
T1= .75 T2= .74	My parents/guardians encourage me to express my opinions about politics and current events, even if they are different from their views.

[1]**:** Item adapted from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly** Agree

Communication with Teachers about Politics.	
T1: α=0.84; T2: α=0.84	
Stem: *Here are some questions about your political discussions with others. Indicate how much you agree or disagree with each statement.*	
Factor Loading	
T1= .77 T2= .76	I talk to my teachers about politics.
T1= .84 T2= .87	I'm interested in my teachers' opinions about politics.
T1= .77 T2= .78	My teachers encourage me to express my opinions about politics, even if they are different from their views.

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly** Agree

Communication with Friends about Politics.	
T1: α=0.88; T2: α=0.86	
Stem: *Here are some questions about your political discussions with others. Indicate how much you agree or disagree with each statement.*	
Factor Loading	
T1= .85 T2= .81	I talk to my friends about politics.
T1= .91 T2= .92	I'm interested in my friends' opinions about politics.
T1= .76 T2= .72	My friends encourage me to express my opinions about politics, even if they are different from their views.

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly** Agree

Communication with Classmates about Politics.	
T1: α=0.87; T2: α=0.86	
Stem: *Here are some questions about your political discussions with others. Indicate how much you agree or disagree with each statement.*	
Factor Loading	
T1= .82 T2= .81	I talk to my classmates about politics.
T1= .88 T2= .90	I'm interested in my classmates' opinions about politics.
T1= .80 T2= .74	My classmates encourage me to express my opinions about politics, even if they are different from their views.

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly** Agree

VALUES

Values play an important role as standards for personal behavior and as a basis for political views and positions on public policies. An exhaustive set of values would not be relevant as indicators of civic engagement thus we present a limited set of values in this paper. Specifically, we asked respondents to indicate the amount of importance they place on religion, improving race relations, helping others, protecting the environment, civic participation, and secure employment.

Religion.

Stem: When you think about your life and your future, how important are the following? It is important to me to…

Correlation	
T1: r = .840***	…be active in my religion.
T2: r = .797***	…follow the principles of my religion.

Note: *** $p \leq .001$.

Importance Scale

1	2	3	4	5
Not at all Important		Uncertain		Very Important

Improving Race Relations.

Stem: When you think about your life and your future, how important are the following? It is important to me to…

Correlation	
T1: r = .601***	…work to stop prejudice.
T2: r = .643***	…improve race relations.

Note: *** $p \leq .001$.

Importance Scale

1	2	3	4	5
Not at all Important		Uncertain		Very Important

Helping Others.

Stem: When you think about your life and your future, how important are the following? It is important to me to…

Correlation	
T1: r = .618***	…help those who are less fortunate.
T2: r = .644***	…help people in my community.

Note: *** $p \leq .001$.

Importance Scale

1	2	3	4	5
Not at all Important		Uncertain		Very Important

Protecting the Environment.	
T1: α=0.75; T2: α=0.74	
Stem: When you think about your life and your future, how important are the following? It is important to me to…	
Factor Loading	
T1= .81 T2= .82	…do something to stop pollution.
T1= .59 T2= .57	…help protect animals.
T1= .75 T2= .73	…preserve the earth for future generations.

Importance Scale

1	2	3	4	5
Not at all Important		**Uncertain**		**Very Important**

Serving the Country.
Stem: When you think about your life and your future, how important are the following? It is important to me to…
Single Item
…serve my country in the military.

Importance Scale

1	2	3	4	5
Not at all Important		**Uncertain**		**Very Important**

Participating in Politics.
Stem: When you think about your life and your future, how important are the following? It is important to me to…
Single Item
…be active in politics.

Importance Scale

1	2	3	4	5
Not at all Important		**Uncertain**		**Very Important**

Secure Employment.	
Stem: When you think about your life and your future, how important are the following? It is important to me to…	
Correlation	
T1: r = .524***	…get a job where I won't get laid off.
T2: r = .507***	…get a job that pays well.

Note: *** $p \leq .001$.

Importance Scale

1	**2**	**3**	**4**	**5**
Not at all Important		**Uncertain**		**Very Important**

PERSONAL BELIEFS

The following two constructs measure students perceptions of the future and social trust.

Concern about the Future.	
T1: α=0.83; T2: α=0.87	
Stem: *How much do you agree or disagree with the following statements?*	
Factor Loading	
T1= .68 T2= .75	When I think about the future, I worry that there will not be enough jobs to go around.
T1= .64 T2= .70	I think it will be hard to make enough money to support a family when I'm older.
T1= .73 T2= .80	Economic changes in our country are making the life of the average person worse, not better.
T1= .75 T2= .76	A few individuals are becoming richer but many people are becoming poorer.
T1= .71 T2= .76	I worry that many people in my generation will not have steady jobs.
T1: χ^2 = 169.946, *df* = 5, *p* = .000; CFI = .930; RMSEA = .130 T2: χ^2 = 188.656, *df* = 5, *p* = .000; CFI = .927; RMSEA = .137	

Agreement Scale

1	2	3	4	5
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

Social Trust.	
Stem: *Think about people in general. How much do you agree or disagree with the following statements?*	
Correlation	
T1: *r* = .564***	Most people can be trusted.
T2: *r* = .571***	Most people are fair and don't take advantage of you.

Note: *** $p \leq .001$. The classic social trust measure includes an additional item – "Most people just look out for themselves, rather than try to help others." This item has traditionally been reverse coded and included in the Social Trust construct. In our analyses, this item did not load strongly with the other two items so it was dropped from the construct.

Agreement Scale

1	2	3	4	5
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

MEDIA: CURRENT EVENTS AND POLITICAL COVERAGE

Four constructs were created to measure students media consumption and their perceived usefulness and trustworthiness of various media sources. In addition to these close-ended items, we asked students to identify the name of the program or source that they found most useful in learning about news, public affairs, and political candidates (e.g., television shows, magazines, or newspapers). Although coding open-ended responses can be time consuming, they often provide richer and more nuanced information than closed-ended items.

Overall Media Consumption.	
T1: α=0.78; T2: α=0.81	
Stem: *In a typical week, how often do you:*	
Factor Loading	
T1= .67 T2= .67	Watch the *local* news on TV for information on politics and current events?
T1= .74 T2= .75	Watch *national* news or cable shows (such as CNN) for information on politics and current events?
T1= .54 T2= .62	Listen to news about politics and current events on the *radio*?
T1= .64 T2= .69	Read a *newspaper* for information on politics and current events?
T1= .62 T2= .65	Read news on the *Internet* about politics and current events?
T1: χ^2 = 127.335, *df* = 5, *p* = .000; CFI = .944; RMSEA = .112 T2: χ^2 = 76.812, *df* = 5, *p* = .000; CFI = .965; RMSEA = .086	

Access Scale

1	2	3	4
Hardly at all	**Only now and then**	**Some of the time**	**Most of the time**

Usefulness of Mainstream Media Outlets.	
T1: α=0.77; T2: α=0.79	
Stem: *How USEFUL do you think each of these media outlets is in helping you to learn about news, current events, and political candidates?*	
Factor Loading	
T1= .76 T2= .76	Local Television
T1= .76 T2= .82	National Television
T1= .54 T2= .55	Political Advertisements
T1= .66 T2= .68	Newspapers
T1: χ^2 = 30.608, *df* = 2, *p* = .000; CFI = .985; RMSEA = .086 T2: χ^2 = 23.521, *df* = 2, *p* = .000; CFI = .987; RMSEA = .074	

Note: A principal components analysis of the items on media usefulness revealed that two unique components exist. Conceptually it made sense that young people would evaluate the usefulness of mainstream and popular media outlets differently, so two separate measures were created.

Usefulness Scale

1	2	3	4	5
Not at all Useful		**Somewhat Useful**		**Extremely Useful**

Usefulness of Popular Media Outlets.	
T1: α=0.74; T2: α=0.77	
Stem: *How USEFUL do you think each of these media outlets is in helping you to learn about news, current events, and political candidates?*	
Factor Loading	
T1= .47 T2= .52	Radio
T1= .72 T2= .75	Candidates' Websites
T1= .85 T2= .83	News Websites
T1= .52 T2= .56	Magazines
T1: χ^2 = 101.371, *df* = 2, *p* = .000; CFI = .941; RMSEA = .160 T2: χ^2 = 56.343, *df* = 2, *p* = .000; CFI = .963; RMSEA = .118	

Note: A principal components analysis of the items on media usefulness revealed that two unique components exist. Conceptually it made sense that young people would evaluate the usefulness of mainstream and popular media outlets differently, so two separate measures were created.

Usefulness Scale

1	2	3	4	5
Not at all Useful		**Somewhat Useful**		**Extremely Useful**

Trustworthiness of Media.	
T1: α=0.84; T2: α=0.87	
Stem: *How TRUSTWORTHY do you think each of these media outlets is in their reporting of news, public affairs, and information about political candidates?*	
Factor Loading	
T1= .68 T2= .70	Local Television
T1= .71 T2= .70	National Television
T1= .75 T2= .80	Newspapers
T1= .62 T2= .72	Radio
T1= .72 T2= .76	News Websites
T1= .59 T2= .66	Magazines
T1: χ^2 = 333.163, *df* = 9, *p* = .000; CFI = .912; RMSEA = .136 T2: χ^2 = 333.216, *df* = 9, *p* = .000; CFI = .912; RMSEA = .136	

Note: In a principal components analysis of the trustworthiness of various types of media, two types of media loaded on a separate component: political advertisements and candidates' websites.

Trustworthiness Scale

1	**2**	**3**	**4**	**5**
Not at all Trustworthy		**Somewhat Trustworthy**		**Extremely Trustworthy**

Most Useful Program or Source for Current Events and Political Information
Open-Ended
What is the name of the program or source that you find most useful in learning about news, public affairs, and political candidates (e.g., television show, magazine or newspaper name, etc.)? *Note: If you cannot remember the exact name or title, please write down as much information as you can remember.*

SCHOOL CLIMATE

Students assessments of the climate at their school are associated with their academic achievement and with their civic dispositions and values. All of the items related to the school and classroom environment were subjected to a principal components analysis using varimax rotation. At both time points, the principal components analysis revealed five unique components. The factor loadings listed below are for the confirmatory factor analyses run on each of the individual components identified in the principal components analysis. Many of the school climate items reported in this section are drawn from or adapted from the work of Maehr and Midgley (1996) and Torney-Purta, Lehmann, Oswald, and Schulz (2001).

Student Ownership.	
T1: α=0.77; T2: α=0.75	
Stem: *Indicate how much you agree or disagree with each statement?*	
Factor Loading	
T1= .66 T2= Not Asked	At our school, everyone tries to keep the school looking good.[7]
T1= .81 T2= .72	Students feel like they're an important part of this school.
T1= .78 T2= .77	Students feel proud to be part of this school.
T1= .45 T2= .46	Students have a say in how the school is run.
T1= .48 T2= .51	Students trust teachers.
T1= .61 T2= .61	Most students care about each other, even people they do not know well.
T1: χ^2 = 99.407, *df* = 9, *p* = .000; CFI = .970; RMSEA = .072 T2: χ^2 = 68.748, *df* = 5, *p* = .000; CFI = .963; RMSEA = .081	

[7]**:** Items drawn from Flanagan & Stout (2007).

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

Open Classroom Climate.	
T1: α=0.86; T2: α=0.86	
Stem: *In this class, students…*	
Factor Loading	
T1= .61 T2= .62	… have a voice in what happens.
T1= .89 T2= .91	… can disagree with the teacher, if they are respectful.[7]
T1= .86 T2= .85	… can disagree with each other, if they are respectful.[7]
T1= .77 T2= .75	… are encouraged to express opinions.[7]
T1: $\chi^2 = 55.471$, $df = 2$, $p = .000$; CFI = .985; RMSEA = .117 T2: $\chi^2 = 92.668$, $df = 2$, $p = .000$; CFI = .972; RMSEA = .152	

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

Classroom as a Caring Community.	
T1: α=0.84; T2: α=0.86	
Stem: *How much do you agree to disagree with the following statements about your classmates?*	
Factor Loading	
T1= .71 T2= .69	My class is like a family.
T1= .75 T2= Not Asked	My classmates care about my work just as much as their own.
T1= .75 T2= .79	Students in my class help each other learn.
T1= .64 T2= .72	My classmates treat each other as individuals, not as members of groups.[9]
T1= .66 T2= .74	Students in my class treat each other with respect.[8]
T1= .74 T2= Not Asked	When someone in my class does well, everyone in the class feels good.[8]
T1= .81 T2= .79	My classmates feel like they're part of a community where people care about each other.
T1: $\chi^2 = 461.576$, *df* = 14, *p* = .000; CFI = .921; RMSEA = .128 T2: $\chi^2 = 103.107$, *df* = 5, *p* = .000; CFI = .970; RMSEA = .100	

[8]: Items drawn from the Bay Area School Reform Collaborative (BASRC) study (Mitra, 2002).

[9]: Item adapted from the Social Responsibility and Prevention study (Flanagan & Gallay, 2001).

Agreement Scale

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

Perspective-taking Opportunities.	
T1: α=0.61; T2: α=0.56	
Stem: *Indicate how much you agree or disagree with each statement.*	
Factor Loading	
T1= .63 T2= .60	I have opportunities to work in groups on projects with people who are very different from me.[1]
T1= .66 T2= .64	We talk about racism, sexism, and other forms of discrimination in our classes or other school activities.[1]
T1= .48 T2= .44	In my classes, I have had opportunities to participate in a political or legal role-play (e.g., mock election, campaign, trial, press conference).

Agreement Scale

1	2	3	4	5
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

Social Analysis.	
T1: α=0.82; T2: α=0.81	
Stem: *Indicate how much you agree or disagree with each statement.*	
Factor Loading	
T1= .70 T2= .65	In our class, we learn about people and groups who work to make society better.[1]
T1= .85 T2= .80	In our classes, we learn about things in society that need to be changed.[1]
T1= .85 T2= .82	In our classes, we learn about problems in our society and what causes them.[1]
T1= .56 T2= .59	In our classes, we talk about current events.[1]
T1: $\chi^2 = 68.569$, $df = 2$, $p = .000$; CFI = .976; RMSEA = .131 T2: $\chi^2 = 49.199$, $df = 2$, $p = .000$; CFI = .977; RMSEA = .110	

[1]: Items drawn from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005). The latter three items make-up the CCI Social Analysis scale.

Agreement Scale

1	2	3	4	5
Strongly Disagree	**Disagree**	**Uncertain**	**Agree**	**Strongly Agree**

KNOWLEDGE OF GOVERNMENT AND ELECTORAL POLITICS

Participants were asked a series of questions to test their knowledge of government and electoral politics. Half of our questions are specific to state government, while the others measure knowledge of party politics and federal government. The response options for each of the items follow the question.

Civic Knowledge.	
Sum of six (dichotomous) civic knowledge questions where 1 = correct and 0 = incorrect.	
Stem: *The next set of questions is about government. Remember: Your answers are confidential and will not affect your grade in this class. Fill-in the circle next to the response that best answers the question.*	
#	**Question**
1	Who is the governor of [*insert state*]? **RESPONSE OPTIONS:** Open-Ended
2	To override a presidential veto, how much of a majority is required in the US Senate and House of Representatives?[1] **RESPONSE OPTIONS:** ▪ One-third (1/3) ▪ One-half (1/2) ▪ Two-thirds (2/3) ▪ All
3	Of the two major parties, which one is more conservative?[1] **RESPONSE OPTIONS:** ▪ Democrats ▪ Republicans
4	Of the two major parties, which one is more in favor of tax cuts? **RESPONSE OPTIONS:** ▪ Democrats ▪ Republicans
5	To vote in a [*insert state*] primary, an individual must be registered with either the Republican or Democratic Party. **RESPONSE OPTIONS:** ▪ True ▪ False
6	In [*insert state*] if a person wants to vote in an election, how long before the election does he/she have to get registered? **RESPONSE OPTIONS:** ▪ 30 days ▪ 60 days ▪ 90 days

[1]**:** Items drawn from the California Civic Index (Kahne, Middaugh, & Schutjer-Mance, 2005).

ENDNOTES

1 Several of the questions included in these constructs have been used in multiple studies making it difficult to identify the original source. The authors of this report made a good faith effort to identify and credit the original developers of the items; any oversights are those of the authors and were unintentional.

2 Due to the short span of time between waves of data collection, we feel confident that the qualitative meaning of the items reported in this paper did not change for our sample. Thus, we feel it is appropriate to use the results of the T1 and T2 SEM measurement models to assess measurement equivalence across time.

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